



25-CT-113  
(3270)  
**Madison Gas and Electric Company**

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*your community energy company*

April 29, 2002

Mr. James D. Loock  
Chief Engineer, Electric Division  
Public Service Commission of Wisconsin  
610 North Whitney Way  
Post Office Box 7854  
Madison, Wisconsin 53707-7854

RECEIVED  
MAY 29 2002  
Electric Division

Subject: PSC 113.0604 - Annual Report

Dear Mr. Loock:

Enclosed are paper and electronic copies of the annual report required by Wisconsin Administrative Code PSC 113.0604 due May 1, 2002. Included is a file in CAD format providing an overview of our electric distribution territory as referenced in the annual report.

If you have any questions, please contact me at 252-7942 or at [dblankenheim@mge.com](mailto:dblankenheim@mge.com).

Sincerely,

David B. Blankenheim  
Director - Operations Support

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Enclosures

## Madison Gas and Electric Company

# Annual Report to the Public Service Commission of Wisconsin PSC 113.0604

### PSC 113.0604 (1)

Attached is a map of Madison Gas and Electric Company's (MGE) service territory that indicates the location of our substations. Substations in magenta distribute electricity at 13.8 kV while those in blue distribute at 4 kV. The 4-kV substations are often supplied by a parent 13.8-kV feeder from one of the 13.8-kV substations.

The names of the feeders incorporate the name of the substation they originate from and the voltage of the feeder. Feeders from 13.8-kV substations are given numbers in the form "13xx" while names of feeders from 4-kV substations are in the form "4xx." For example SYC 1310 is a 13.8-kV feeder from the Sycamore Substation and BLK 451 is a 4-kV feeder from the Blackhawk Substation.

### PSC 113.0604 (2)(a)

MGE operates in a single area in Dane County for the electric distribution system. The chart below shows our SAIFI, SAIDI, and CAIDI statistics for 2001. These statistics show an improvement over our 2000 performance.

Last year, we reported that MGE had experienced a higher-than-normal number of outages caused by problems in the substation. Outages of this nature affect a large number of customers and have a significant influence on the reliability statistics. We reported that we had already addressed these problems during 2000. As our 2001 performance shows, MGE's immediate and decisive response to these problems was effective. MGE continues to monitor our system performances and address problems immediately when they are identified where significant improvement in reliability can be reasonably achieved.

Year	Customers	Customers Out	Customer Minutes	SAIFI	SAIDI (minutes)	CAIDI (minutes)
2000	125217	147930	12962600	1.18	103.5	87.6
2001	126983	105962	8707004	.834	68.56	82.17

### PSC 113.0604 (2)(b),(c)

The MGE distribution circuits that are the highest priority, based on SAIFI and momentary events (ME) in 2001, are shown in the table below. These circuits represent the ten circuits with the highest SAIFI and the six circuits with the highest number of momentary events. Some circuits may fit both categories. MGE is required to list ten of its worst-performing circuits but has listed 16 when considering SAIFI and momentary events.

MGE uses SAIFI and MEs to determine the circuits which are likely to need reliability improvements and less emphasis on SAIDI and CAIDI. This is because MGE uses a strategy to reduce the total number of times customers are out of service (momentarily or longer).

The SAIDI and CAIDI indices (outage duration) are highest during storm situations and are often related to the logistics of responding to widespread outages, so they are less useful in identifying areas of poor reliability. High CAIDI can also be associated with cable failures due to the time-consuming work of locating and repairing failed cables. MGE is aggressively replacing cables that are reaching 30 years of age or exhibit a history of failures. This work is not being done on a circuit-by-circuit basis because cable age and history do not depend on circuit boundaries.

Rank	Circuit	SAIFI	Five-Minute Momentaries*	Total
1	WGA 1315	0.4	9	9.4
2	ICR 435	3.0	6	9.0
3	WPT 1332	2.9	6	8.9
4	HKP 1307	1.7	7	8.7
5	RYS 1312	1.3	6	7.3
6	WMD 1333	0.2	7	7.2
7	NSP 1319	2.0	5	7.0
8	WLT 1322	2.4	4	6.4
9	WMD 1332	2.7	3	5.7
10	WMD 1334	3.6	2	5.6
11	NSP 1317	2.3	3	5.3
12	WLT 1321	0.0	5	5.0
13	MON 443	2.7	2	4.7
14	ETN 1336	2.7	2	4.7
15	SHW 432	3.1	0	3.1
16	BLT 1306	3.0	0	3.0
*Five-minute momentary refers to momentary events occurring within one 5-minute period. This may include more than one recloser cycle.				

#### **WGA 1315 (SAIFI 0.4, ME 9)**

This circuit experienced momentaries that seem to be attributable to storm issues. MGE will install additional lightning arresters and grounding in 2002.

#### **ICR 435 (SAIFI 3.0, ME 6)**

This circuit experienced three outages, all of them being total circuit outages. One of the outages was while ICR 435 was temporarily switched to parent 13.8-kV circuit WLT 1322. A second outage occurred at a feeder cable riser. This cable has since been replaced. The third outage occurred during storm activity while the substation recloser was turned off for line work safety. Because the outages do not display a pattern suggesting a particular course of action, and the failed riser has been replaced, there is no additional work planned for this circuit.

#### **WPT 1332 (SAIFI 2.9, ME 6)**

This is primarily a rural circuit and was noted in the 2001 report as requiring maintenance attention following a 2000 SAIFI of 3.3. In 2001, the circuit experienced two total circuit outages and a number of partial outages of one customer or more. Grounding and lightning arrester improvements were made to areas of this line in 2001. MGE will continue with additional grounding and lightning arrester improvements. In addition, monitoring reclosers and installing additional reclosers and new sectionalizers will be investigated.

#### **HKP 1307 (SAIFI 1.7, ME 7)**

This circuit experienced a high momentary count in early 2001. One span of primary was susceptible to galloping and had multiple contacts during a major wind event. This span was replaced with underground conductor in 2001. In addition, lightning has been a problem on this circuit. Installation of additional lightning arresters and grounding was performed in 2001 and early 2002.

**RYS 1312 (SAIFI 1.3, ME 6)**

This circuit experienced momentaries that seem to be attributable to storm issues. MGE performed routine tree trimming in 2001 and plans additional trimming in 2002. We will install additional lightning arresters and grounding and additional fault indication devices to pinpoint problem areas.

**WMD 1333 (SAIFI 0.2, ME 7)**

This circuit also experienced momentaries that seem to be attributable to storms and lightning. MGE performed routine tree trimming in 2001. We will improve grounding and lightning arresters and install fault indication devices to assist with identifying problem areas.

**NSP 1319 (SAIFI 2.0, ME 5)**

The circuit experienced two total outages in 2001, one due to an equipment failure in the substation and the other due to vehicular contact with the line. For the momentary events on this circuit in 2001, a common cause for some or all of the events could not be discerned. MGE will install fault indication devices on portions of this line to allow better detection of the area that is troublesome. Appropriate maintenance work will take place after additional investigation.

**WLT 1322 (SAIFI 2.4, ME 4)**

This circuit experienced three total circuit outages in 2001 that also caused increased SAIFI activity on a “companion” 13.8-kV feeder (ECA 1314) and three “child” 4-kV circuits (SHW 432, ICR 435, and GLY 432). The SAIFI index is lower than 3.0 because one of the whole-circuit outages occurred when a significant number of customers were switched to another circuit. Routine tree trimming was performed in this area in 2001. In addition, some overhead line sections that were in marginal condition were rebuilt in 2001. We will monitor this circuit to verify that these measures are effective.

**WMD 1332 (SAIFI 2.7, ME 3)**

This circuit also experienced a high SAIFI due to substation coordination issues similar to WMD 1334 (see next entry). The substation issues were resolved in 2001. No additional work is planned in 2002.

**WMD 1334 (SAIFI 3.6, ME 2)**

This rural circuit experienced three total circuit outages plus a number of smaller outages. The three total circuit outages were related to substation relay problems. MGE improved instrumentation in the substation to correct these in 2001. The partial outages were primarily related to cable failures and storm (lightning) issues. We will monitor this circuit to verify that the improvements to this circuit are effective.

**NSP 1317 (SAIFI 2.3, ME 3)**

There were two near-total circuit outages through the same wooded residential area. Review of the fusing scheme in this area will be done to reduce the number of customers susceptible to any individual outage. We will continue to monitor this circuit to verify that our corrections are effective.

**WLT 1321 (SAIFI 0.0, ME 5)**

This circuit is built as double circuit with WLT 1322 (see previous entry). This circuit extends through a heavily wooded area. Tree trimming was performed in this area in 2001. We will monitor the performance of this circuit in 2002 for additional potential improvements.

**MON 443 (SAIFI 2.7, ME 2)**

The area served by this circuit is primarily residential and heavily wooded. One total circuit outage was due to an outage on the parent circuit. Other smaller outages were caused by storm activity. Routine tree trimming was performed throughout this area in late 2001. All cap and pin-type insulators in the supplying 14-kV substation have been replaced. Lightning protection will also be reviewed for this circuit.

**ETN 1336 (SAIFI 2.7, ME 2)**

This circuit experienced two total circuit outages in 2001. Both outages were due to contractor dig-ins on a feeder line. No additional maintenance activity is proposed for 2002.

**SHW 432 (SAIFI 3.1, ME 0)**

This circuit experienced three total circuit outages due to outages on its parent circuit WLT 1322. The other smaller outages were related to tree contacts. This area is residential and heavily wooded. Routine tree trimming was performed on this circuit in 2001.

**BLT 1306 (SAIFI 3.0, ME 0)**

This circuit experienced three total circuit outages in 2001. These outages were a result of animal contact in a transformer enclosure. After these incidents the enclosure was rebuilt, making it animal-proof. In addition, we plan to modify this enclosure further by installing "dead front" network transformers in 2002.

**PSC 113.0604 (2)(d) - Status of response plans filed in the 2001 report.****HKP 1307**

MGE found and corrected a span of conductor that was especially susceptible to galloping in high winds. In addition, MGE has checked the grounding in this area and installed additional lightning arresters. This completes the response to circuit performance reported in the 2001 report. Installation of a second transformer will be completed in 2002. Additional wildlife protection equipment has been installed in this substation.

**WPT 1332**

MGE surveyed the southern portions of the circuit work including testing grounds, improving lightning arrester application, and aggressively correcting small problems found on this circuit. Ten spans of conductor are being analyzed to see if work is required to reduce the potential for conductor slap. This work will be completed in 2002. A substantial portion of this circuit will be rebuilt in the near future due to Highway 12 expansion.

**RYS 1310**

Fault indicators have been installed on this circuit and we are monitoring performance. Momentary interruptions have decreased somewhat, and we will continue to monitor this circuit in 2002. All cap and pin-type insulators in this substation have been replaced.

**MID 451**

MGE trimmed trees in the entire circuit area in 2001 as part of our normal tree-trimming program. The contemplated conversion to 13.8-kV distribution has been eliminated; however, we are installing a second transformer at this site. A second transformer will reduce the exposure for these customers by splitting this circuit into two smaller circuits.

**FEM 1312**

No remedial action was planned for this circuit. Because the outages occurring on this circuit did not suggest that they were related to system condition, MGE continued to monitor this circuit in 2001 to detect any emerging patterns. Performance improved in 2001, so additional effort is not warranted.

**RKN 1333**

No remedial action was planned for this circuit. Because the outages occurring on this circuit did not suggest that they were related to system condition, MGE continued to monitor this circuit in 2001 to detect any emerging patterns. Performance improved in 2001, so additional effort is not warranted.

**BLK 432**

MGE trimmed this area in response to outages as well as through our normal tree-trimming program in the fall of 2000 and winter of 2000-2001. Wildlife protection was installed in the substation in 2001 to directly respond to wildlife-related outages in 2000.

**RKN 1334**

Ruskin (RKN) 1334 experienced outages in 2000 due to instrumentation problems in the newly installed part of the substation. These conditions were corrected in 2000.

**BLK 451**

As part of our normal tree-trimming cycle, we trimmed this area in the fall of 2000 and winter of 2000-2001 due to the large percentage of oaks in the area. Wildlife protection was installed in the substation in 2001 due to the wooded surrounding of the substation.

**FAO 444**

Fair Oaks (FAO) 444 experienced outages due to outages of the supplying 14-kV circuit. New instrument transformers were installed in the supplying substation in the year 2000 to correct the instrumentation problems. All cap and pin-type insulators in the Sycamore Substation have been replaced with post-type insulators in the year 2000 to prevent additional failures associated with this type of insulator.

**MKC 443**

New current transformers were installed in 2000 at the supplying 14-kV substation to correct the instrumentation problems. Relay coordination was reviewed and corrected.

**SYC 1333**

All cap and pin-type insulators in the Sycamore Substation have been replaced with post-type insulators. Cable replacement has been completed to both generators to correct cable failure and prevent others.

**FPT 433**

Routine tree trimming has been completed to improve the performance of this circuit. In addition, there was one total circuit outage caused by a cable failure on the supplying 14-kV circuit. MGE replaced the cable and has an ongoing cable replacement program as part of our long-range planning.

**LKV 451**

No work was scheduled for this circuit. Because the outages occurring did not suggest that they were related to system condition, MGE continued to monitor this circuit in 2001 to detect any emerging patterns. Performance improved in 2001, so additional effort is not warranted.

**SHW 434**

No work was scheduled for this circuit. Because the outages occurring on this circuit did not suggest that they were related to system condition, MGE continued to monitor this circuit in 2001 to detect any emerging patterns. Performance improved in 2001, so additional effort is not warranted.

**Additional reliability plans based upon outage experience in 2000 and 2001.**

MGE replaced all the cap and pin-style insulators in the SYC, RYS, FCH, and NSP substations in response to outages caused by failures of this type of equipment.

MGE has improved the wildlife protection in BLK, BLD, and HKP substations.

MGE has created a program to replace 69-kV silicon carbide-type lightning arresters with more reliable zinc oxide-type lightning arresters in substations. Lightning arresters were replaced on eight substation transformers in 2001. Work was also started on seven additional transformers that will be completed in early 2002.

In addition to the above circuit-by-circuit remedies, MGE continued an aggressive program of replacing aging underground distribution cables. Reactive cable replacements are prioritized based on the number of failures experienced and the number of customers affected by the candidate cable. Cable replaced in 2001 was selected based on our experience in recent years.

We are also working to replace URD cable that is more than 30 years old. This proactive cable replacement program is directed at changing out cable that is approaching the end of its useful life prior to failure.

Cable replacement projects will show in the line miles rebuilt section of this report.

**PSC 113.0604 (2)(e) - New or modified power quality or reliability programs.**

MGE did not initiate any new power quality or reliability programs in 2001. Existing programs for both power quality and reliability have not been substantially changed. Reliability programs initiated within the last few years include:

- Proactive replacement of distribution cable reaching 30 years of age.
- Accelerated tree trimming.

**PSC 113.0604 (2)(f)**

**MGE Electric Distribution Long-Range Plan**

**Overview**

The present plans for improvements to the MGE electric distribution system are primarily based on analysis of future facility loads, voltages, and expected customer use. However, distribution improvements are also planned to increase reliability in specific areas and to replace facilities that are at the end of their practical service life. The results of the analysis are proposed projects and facilities in the MGE Ten-Year Electric Distribution Plan. These plans are updated annually. See Tables A and B for lists of the projects and facilities for substations and feeders that are proposed over the next ten years.

The MGE electric distribution system is comprised of 4-kV facilities and 14-kV facilities. At the end of 2001, the 4-kV facilities consisted of 31 substations and 74 feeders and the 14-kV facilities consisted of 22 substations and 117 feeders, with seven of these substations having both 4-kV and 14-kV feeders out of them. (In Cross Plains, the facilities are 12.4 kV and are included in the 14-kV totals above.) Most of the 4-kV substations are served by 14-kV feeders, but six of them are served by 69-kV sources.

**Substations**

Substation projects include plans to add new substations, to add new substation transformers, to add substation capacitor banks, to remove 4-kV substations, and to upgrade substation equipment.

The Blount Substation (4-kV and 14-kV portions) is being rebuilt and upgraded, including addition of a second 69/14-kV transformer in 2002, to reduce the frequency and duration of outages caused by age and deterioration as part of a multiyear project that will be completed in 2005.

A metering upgrade at Nine Springs Substation is planned for 2002.

New capacitor banks are planned to be periodically installed at various substations through 2008 to maintain adequate voltage.

In the near term, a new 69-kV bus, a 69/14-kV transformer, and 15-kV switchgear are being added at Pflaum and Huiskamp substations in 2002. In 2002, the Pheasant Branch Substation will be rebuilt to replace aged distribution equipment and a second 69/14-kV transformer will be added to help alleviate high loading on the existing unit. The Gateway Substation will be upgraded and its transformer replaced in 2002. The old Randall Substation is reaching the end of its service life and will be removed by 2003.

In the midterm, new 69/14-kV substations are planned at several locations: Tokay, Southeast Fitchburg, Martinsville, West Cross Plains. New substation transformer capacity is planned to be added (replacement of a unit at Wingra and replacement of the two units at Femrite with larger units). The 4- to 14-kV feeder conversions will make 14/4-kV transformers available that will be used to replace older units as necessary. These proposed projects are to alleviate heavy loads on substation transformers during peak customer use and contingency conditions.

In the long term, a new Hanson Road Substation is planned on the northeast side of Madison. Beyond 2006, new substation transformer capacity is planned to be added at several locations (Sprecher, Blackhawk, Walnut/East Campus). In that same time frame, substation transformers are planned to be replaced at West Middleton and Fitchburg with larger units.

As 4- to 14-kV feeder conversions occur and obviate the need for 14/4-kV or 69/4-kV transformers and substations, those substations will be removed.

The proposed substation projects planned during the next ten years are shown in Table A.

## **Feeders**

Planned improvements to feeders include 4- to 14-kV feeder conversions and new 14-kV feeders. Plans to rebuild 14-kV feeders are usually folded into feeder reconfigurations for new substations and 4- to 14-kV feeder conversions, with only a few proposed projects specifically to address age/condition of the feeders. MGE analyzes the age/condition of its distribution poles on a ten-year cycle, the results of which are incorporated into our maintenance plan.

The 4- to 14-kV feeder conversions are a large portion of the feeder projects, spread over a number of years. The need for voltage conversions vary and can be because of loads, voltages, age/condition of 14/4-kV transformers, age/condition of poles/wires, or the need to vacate substation space for 69/14-kV transformer additions.

Load growth is another major reason for feeder projects. Such projects are to add new feeders to serve new loads throughout the MGE service territory, to tie feeders at new locations to allow better switching during contingencies, or to reconfigure the feeders because of new substations.

Several proposed projects are to increase reliability. A significant portion of the MGE electric distribution is underground cable, an increasing portion of which is reaching the end of its service life and is being replaced annually. Feeders will be reconductored or converted from overhead to underground by 2003 to improve their performance (Cross Plains, West Middleton to Airport Road, Anderson Road, Fitchburg-Wingra, Sycamore-East Towne). Blount feeders will be rebuilt and upgraded in conjunction with the Blount Substation rebuild. New and reconfigured feeders related to substation improvements (Gateway, Huiskamp, Pflaum, Pheasant Branch) will also increase reliability.

The proposed feeder projects planned during the next ten years are shown in Table B.



## Distribution Substations

Table A

Item	Project	2002	2003	2004	2005	2006	2007	2008	2009	2010
1	Miscellaneous Distribution Substation Equipment	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	Huiskamp: Replace Trfmr #1 & Add Trfmr #2	XXX								
3	Pheasant Branch: Upgrade & Add Trfmr #2	XXX								
4	Gateway: Replace Trfmr & Add Swgr.	XXX								
5	Blount: Rebuild 4-kV & 14-kV Substation	XXX	XXX	XXX	XXX					
6	Tokay: New Substation, 69/14-kV	XXX	XXX	XXX						
7	Unit Substation Replacement	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
8	Wingra: Add 69/14-kV Trfmr #2 and Swgr.	XXX	XXX							
9	Bus Insulator Replacements, 15-kV	XXX								
10	Old Randall Substation (13/4-kV): Remove	XXX								
11	Substation HVAC Upgrades	XXX			XXX			XXX		XXX
12	Breaker Upgrade / Recloser Control	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13	Nine Springs: Metering Upgrade	XXX								
14	Install LTC Oil Filtering Equipment		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
15	Substation Battery Replacement		XXX		XXX		XXX		XXX	
16	Capacitor Bank Additions in Substations			XXX		XXX		XXX		XXX
17	West Cross Plains: New Substation, 69/14-kV		XXX	XXX						
18	Ruskin: Install 69/4 Units & Fdrs, Remove Mendota			XXX						
19	Royster: Replace 14-kV & Cap. Bk. with Metalclad			XXX	XXX					
20	Southeast Fitchburg: New Substation			XXX	XXX	XXX				
21	Walnut or East Campus: Add Trfmr						XXX			
22	Sprecher: Add 69/14-kV Trfmr #2						XXX			
23	Femrite: Replace Trfmrs & Add Swgr.				XXX	XXX				
24	Martinsville: New Substation, 138/14-kV		XXX	XXX						
25	West Middleton: Replace Trfmr #7 & Add Swgr.							XXX	XXX	
26	Blackhawk: Replace Trfmr #1 & Add Trfmr #2							XXX	XXX	
27	Fitchburg: Replace 69/14-kV Trfmrs							XXX	XXX	
28	Miscellaneous Distribution Substation Additions				XXX	XXX	XXX	XXX	XXX	XXX
29	Hanson Road: New Substation							XXX	XXX	
30	Future New Distribution Substation									XXX
31	Breaker Replacement		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

# Distribution Feeders

Table B

Item	Project	2002	2003	2004	2005	2006	2007	2008	2009	2010
1	Distribution Feeder Capacitors	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	Femrite Dr Relocate (Street Improvement)	XXX			XXX					
3	Camp Randall Switchgear	XXX								
4	System Improvements from PSC 113	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
5	USH 12 Relocate (10 miles) (Street Improvement)	XXX	XXX	XXX						
6	OH Line work before Street Projects	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
7	Camp Randall Feeders	XXX								
8	Breese Terrace - Conduit & Manhole	XXX								
9	DLM - Distribution Automation Comm. Equip.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
10	Huiskamp 14-kV Feeder Addition	XXX								
11	Pheasant Branch Feeder Recable	XXX								
12	Gateway Feeder Additions for new 69/14-kV Trfmr	XXX								
13	Blount Feeder Reconfiguration	XXX	XXX	XXX	XXX					
14	Distribution Cable Replacements	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
15	West Middleton Feeder - Airport Rd to Middleton	XXX	XXX							
16	Fitchburg-Wingra Feeders	XXX								
17	Reconductor Anderson Road	XXX	XXX							
18	Sycamore-East Towne UG Cable Replacements	XXX	XXX							
19	Cross Plains Reconductoring	XXX								
20	Remove Randall 4-kV Substation	XXX								
21	Wingra Conversion	XXX								
22	Line Trfmrs for Conversions	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
23	Kipp Conversion - South		XXX							
24	Lost City Conversion		XXX							
25	Network Trfmrs - Conversion Jobs	XXX		XXX		XXX		XXX		XXX
26	Olin Ave Conversion		XXX							
27	Distribution Automation	XXX		XXX	XXX	XXX	XXX	XXX	XXX	XXX
28	Blount 4-kV radial conversions		XXX	XXX						
29	Madison OH-UG Conversions	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
30	Middleton OH-UG Conversions		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
31	Monona OH-UG Conversions		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
32	Shorewood Hills OH-UG Conversions	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
33	Pheasant Branch Feeder to Elmwood		XXX							
35	Miscellaneous Feeder Reinforcement			XXX	XXX	XXX	XXX	XXX	XXX	XXX
36	Warner Park Conversion		XXX							
37	Packers Ave Conversion			XXX						
38	South Madison Conversion - South			XXX						
39	Pflaum-Royster Conversion			XXX						
40	Lakeview Conversion - North			XXX						
41	Green Substation Conversion			XXX						
42	Sherman Ave Conversion				XXX					
43	Tokay Feeder East (Mineral Point Conversion)							XXX		
44	General 4-14-kV Conversions (beyond 4 years)				XXX	XXX	XXX	XXX	XXX	XXX
45	Tokay Feeders for New Substation			XXX						
46	14-kV Feeder from Old Sauk Rd to University Ave					XXX				
47	Walnut or East Campus feeder addition						XXX			
48	Femrite Feeders for New Transformers					XXX				
49	Martinsville Feeders for New Substation			XXX						
50	Southeast Fitchburg Feeders for New Substation					XXX				
51	Hanson Road Feeders for New Substation								XXX	
52	Yahara Conversion		XXX	XXX						

**PSC 113.0604 (3)(a)**

This table shows the number of miles of distribution line rebuilt in 2001. This total includes conversion from overhead-to-underground distribution, voltage conversions from 4160- to 13800-volt distribution, cable replacement, or overhead relocations.

Two-phase distribution rebuilt is calculated as two single-phase lines.

<b>Miles of Distribution Line Rebuilt</b>			
<i>Overhead</i>		<i>Underground</i>	
Single Phase	Three Phase	Single Phase	Three Phase
4.7	5.4	5.7	10.9

**PSC 113.0604 (3)(b) - Miles of line in service by voltage level.**

These totals represent the number of circuit miles of distribution circuit in place at the end of 2001. The distribution system is constantly changing, so these numbers are slightly different from the numbers reported in our annual report.

	<b>OH Footage</b>	<b>OH Miles</b>	<b>UG Footage</b>	<b>UG Miles</b>
4.1-kV	1626759	308.0983	451191	85.4
13.8-kV	3559046	674.0617	3752438	710.689
		981.1		796.1

**PSC 113.0604 (3)(c) - Speed of answer in seconds**

	<b>Gas Leak</b>	<b>Emergency/Outage</b>	<b>Billing</b>
January	14	19	32
February	17	24	28
March	12	15	28
April	15	50	37
May	12	11	23
June	32	40	34
July	14	15	29
August	18	15	25
September	16	16	39
October	16	22	27
November	11	19	20
December	16	27	18

**PSC 113.0604 (3)(d) - Service time**

MGE encourages our customers to contact MGE very early in the process of building or remodeling. As result, MGE often works with a customer for a long time before their new service is installed. To track our effectiveness, we measure the time between the customer's requested service date and the date that MGE energizes the service. It is our intention and belief that working with the customer cooperatively, as construction on their facility progresses, we can assure the highest customer satisfaction.

The table below provides the average number of days between customer requested date (Date Needed) to the date the new service is energized for residential, commercial, and multifamily projects.

# Monthly Electric Service Orders From Date Service Needed to Date Energized

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Residential - 2000												
No. of Days	-9	-7	-13	-7	-8	-6	-6	-9	4	-15	-11	-6
No. of Orders	27	34	46	58	59	42	49	66	54	67	58	51
Residential - 2001												
No. of Days	-19	-20	-37	-10	-12	-10	-6	-7	-9	-7	-11	-10
No. of Orders	40	32	38	50	50	68	45	86	55	64	65	55
Residential - 2002												
No. of Days												
No. of Orders												
Residential - 2003												
No. of Days												
No. of Orders												
Residential - 2004												
No. of Days												
No. of Orders												
Residential - 2005												
No. of Days												
No. of Orders												
Commercial - 2000												
No. of Days	-1	-3	15	0	4	2	-2	-3	1	0	4	-24
No. of Orders	7	20	19	6	13	20	24	21	15	19	28	20
Commercial - 2001												
No. of Days	10	-2	15	-2	14	0	3	0	7	0	0	5
No. of Orders	35	12	16	15	20	18	15	14	20	20	15	17
Commercial - 2002												
No. of Days												
No. of Orders												
Commercial - 2003												
No. of Days												
No. of Orders												
Commercial - 2004												
No. of Days												
No. of Orders												
Commercial - 2005												
No. of Days												
No. of Orders												
Multi Unit - 2000												
No. of Days	32	7	-74	-29	12	38	-6	-4	0	0	32	22
No. of Orders	2	2	2	6	2	1	5	7	0	0	3	6
Multi Unit - 2001												
No. of Days	-5	0	-40	-3	-8	-13	0	1	88	-10	8	1
No. of Orders	2	0	1	2	3	3	0	4	1	7	3	8
Multi Unit - 2002												
No. of Days												
No. of Orders												
Multi Unit - 2003												
No. of Days												
No. of Orders												
Multi Unit - 2004												
No. of Days												
No. of Orders												
Multi Unit - 2005												
No. of Days												
No. of Orders												

**PSC 113.0604 (3)(e) - Total complaints**

The following table shows the total written and telephone complaints by category and month for 2001.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
High Bill Investigations/Complaints:												
Electric	126	75	68	51	65	64	85	127	129	129	62	56
Gas	238	110	60	27	21	23	14	15	9	9	10	15
Both	40	24	18	15	8	4	8	8	3	8	7	14
Payment Arrangements	-	-	7	1	-	-	1	-	3	-	-	-
Late Payment Charges: Gas and Electric	6	13	6	18	11	4	11	9	10	14	5	7
Disconnection of Service	-	-	1	1	7	1	4	3	6	2	-	-
Quality/Timeliness of Job or Service	-	-	-	-	-	-	-	-	-	-	-	-
Rates/Electric Surcharge	15	26	3	-	-	-	-	-	-	-	-	-
Miscellaneous	14	16	13	13	7	8	-	-	-	-	-	-
Safety	-	-	-	-	-	-	-	-	-	-	-	-
Outages	-	-	-	-	-	-	-	-	-	-	-	-
Power Quality	-	-	-	-	-	-	-	-	-	-	-	-
Property Damage	-	-	-	-	1	-	-	-	-	-	-	-

**PSC 113.0604(3)(f)**

MGE's tree-trimming budget and actual expenditures for calendar 2001 are as follows:

Category	Description	Budget	Actual
Job Orders	Tree trimming in advance of construction	\$ 0	\$152,372
632-2360	Routine maintenance	1,448,051	1,721,305
632-2359	Miscellaneous	156,103	158,271
Total		\$1,604,154	\$1,879,576

**PSC 113.0604 3(g) - Total annual projected/actual circuit miles of distribution line trees trimmed**

Circuit miles of trimming planned	149.0
Circuit miles trimmed	143.1